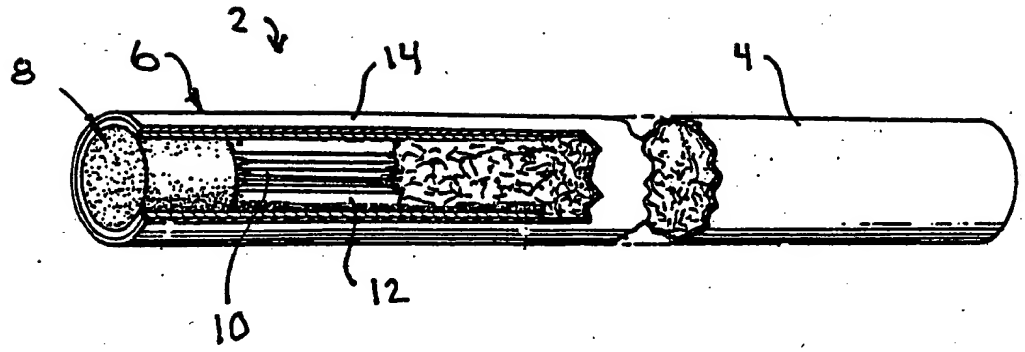


FIGURE 1

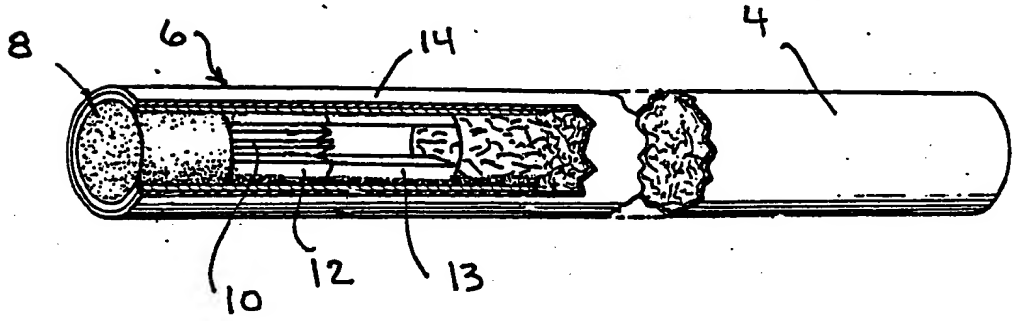


FIGURE 2

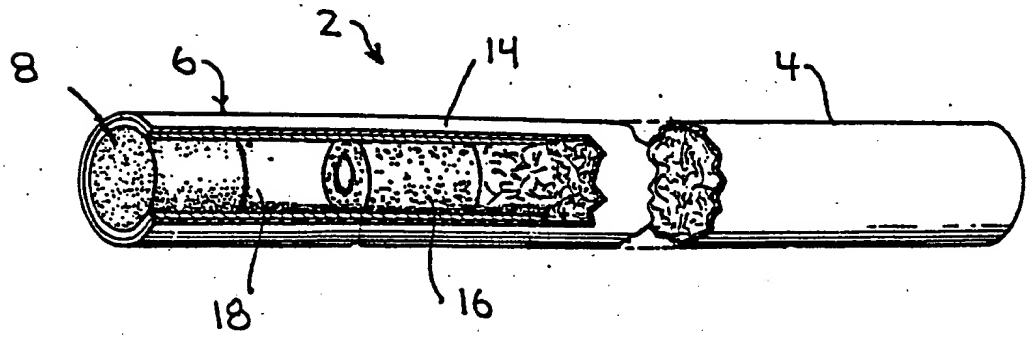


FIGURE 3

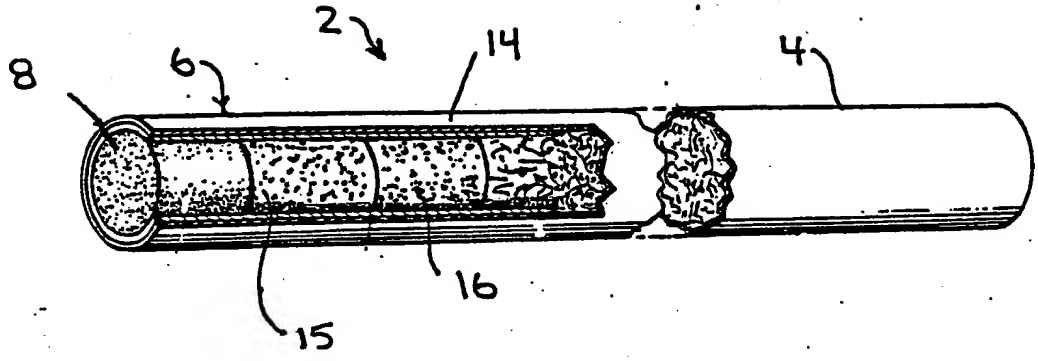


FIGURE 4

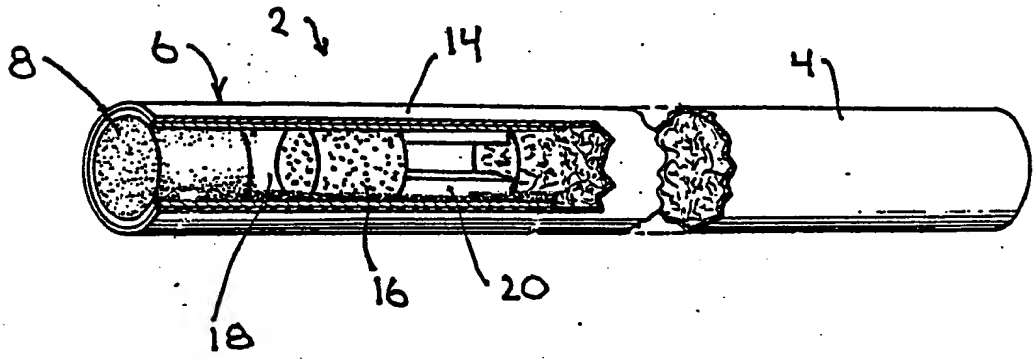


FIGURE 5

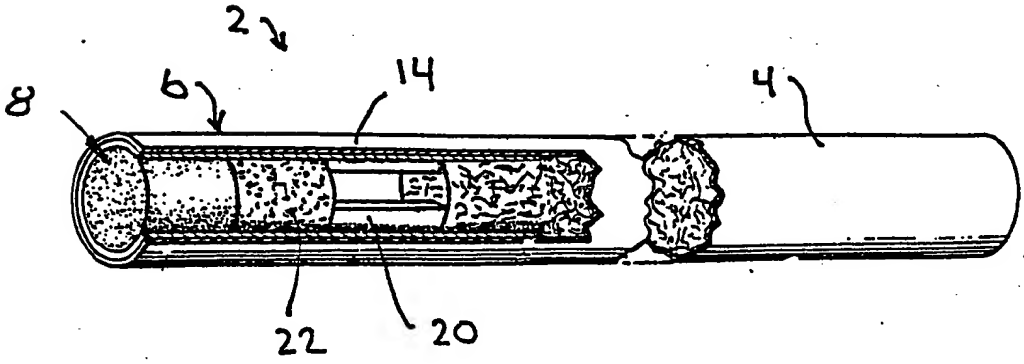


FIGURE 6

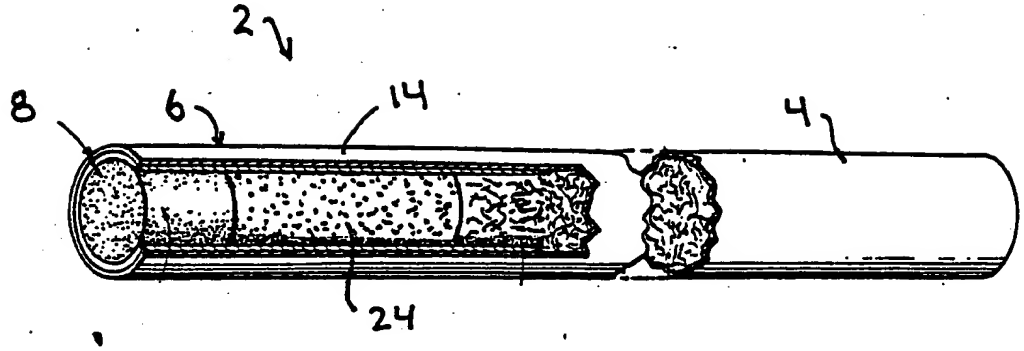


FIGURE 7

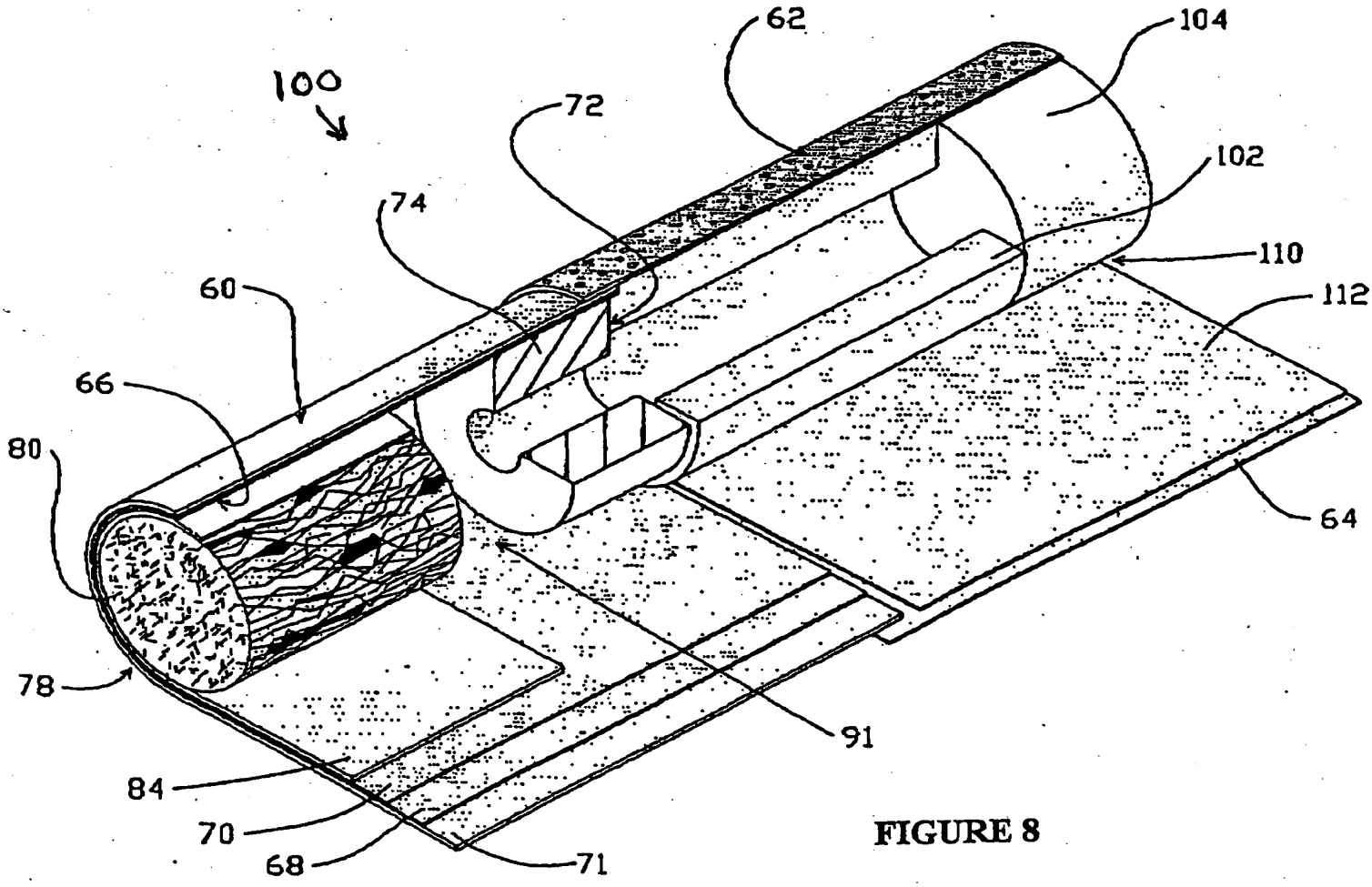


FIGURE 8

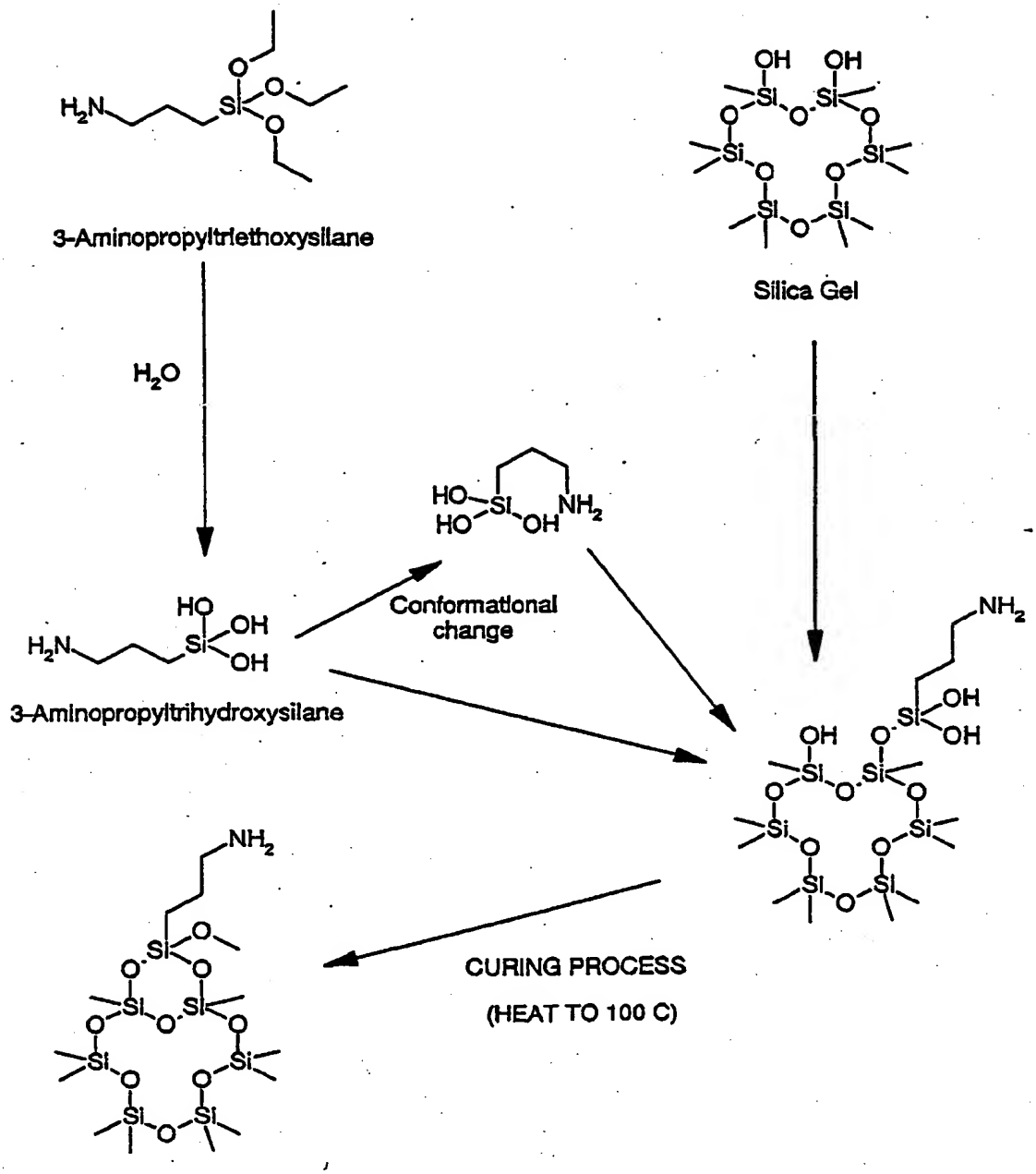
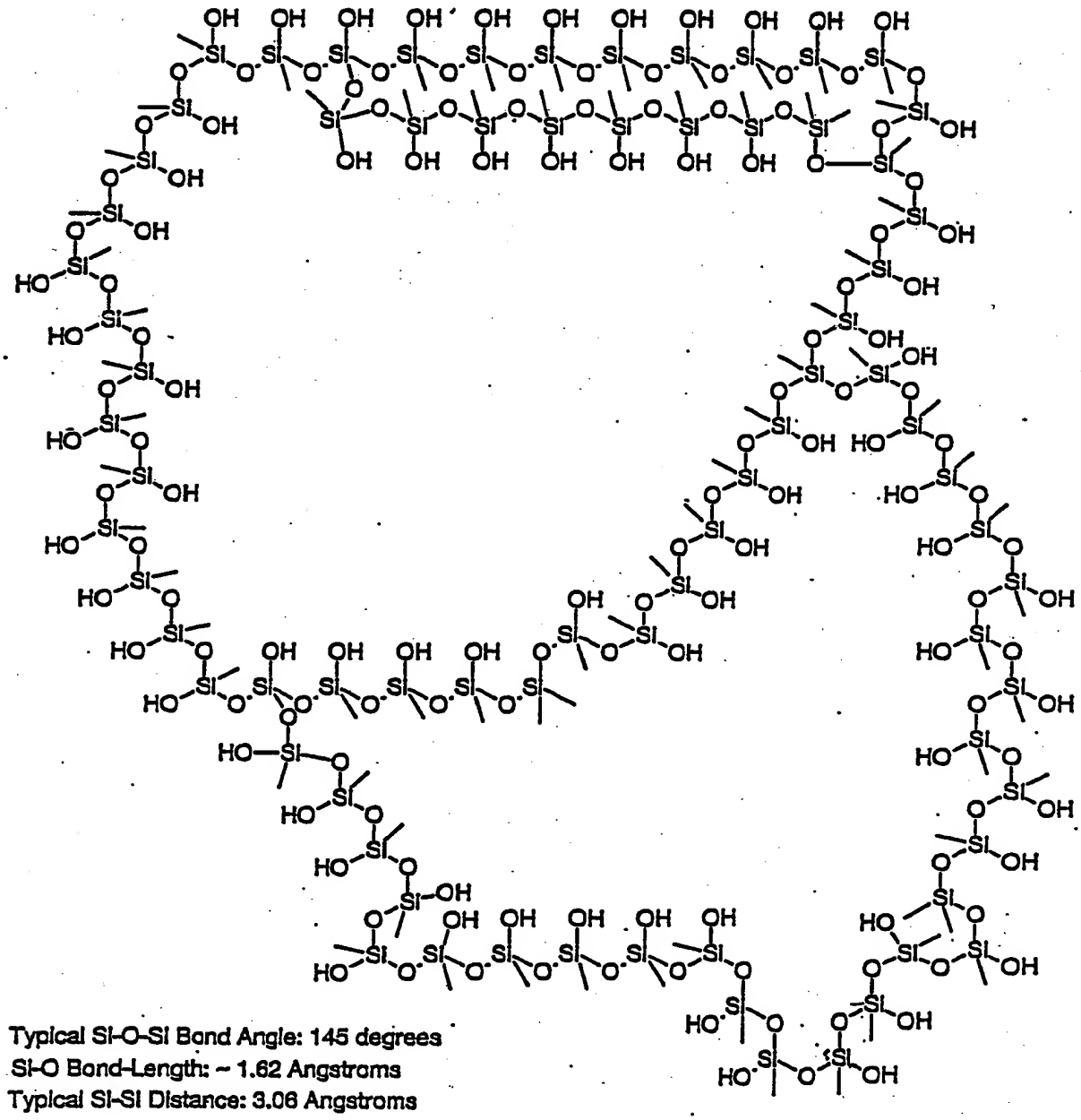

3-Aminopropyltriethoxysilane
Silica Gel
H_2O
Conformational change
3-Aminopropyltrihydroxysilane
CURING PROCESS
(HEAT TO 100 C)

FIGURE 9



Typical Si-O-Si Bond Angle: 145 degrees
Si-O Bond-Length: ~ 1.62 Angstroms
Typical Si-Si Distance: 3.06 Angstroms

FIGURE 10

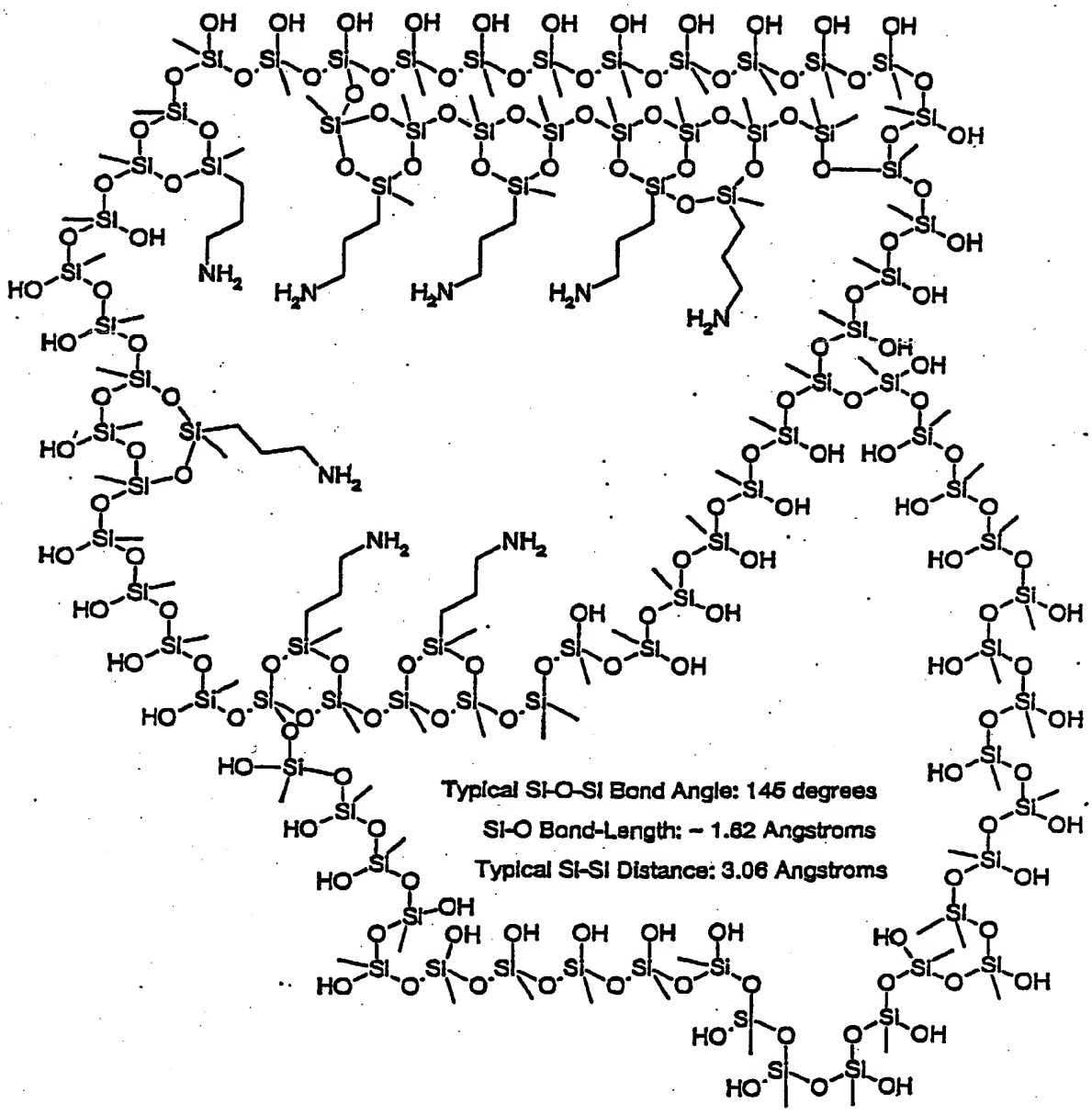

Typical Si-O-Si Bond Angle: 145 degrees
Si-O Bond-Length: ~ 1.62 Angstroms
Typical Si-Si Distance: 3.06 Angstroms

FIGURE 11

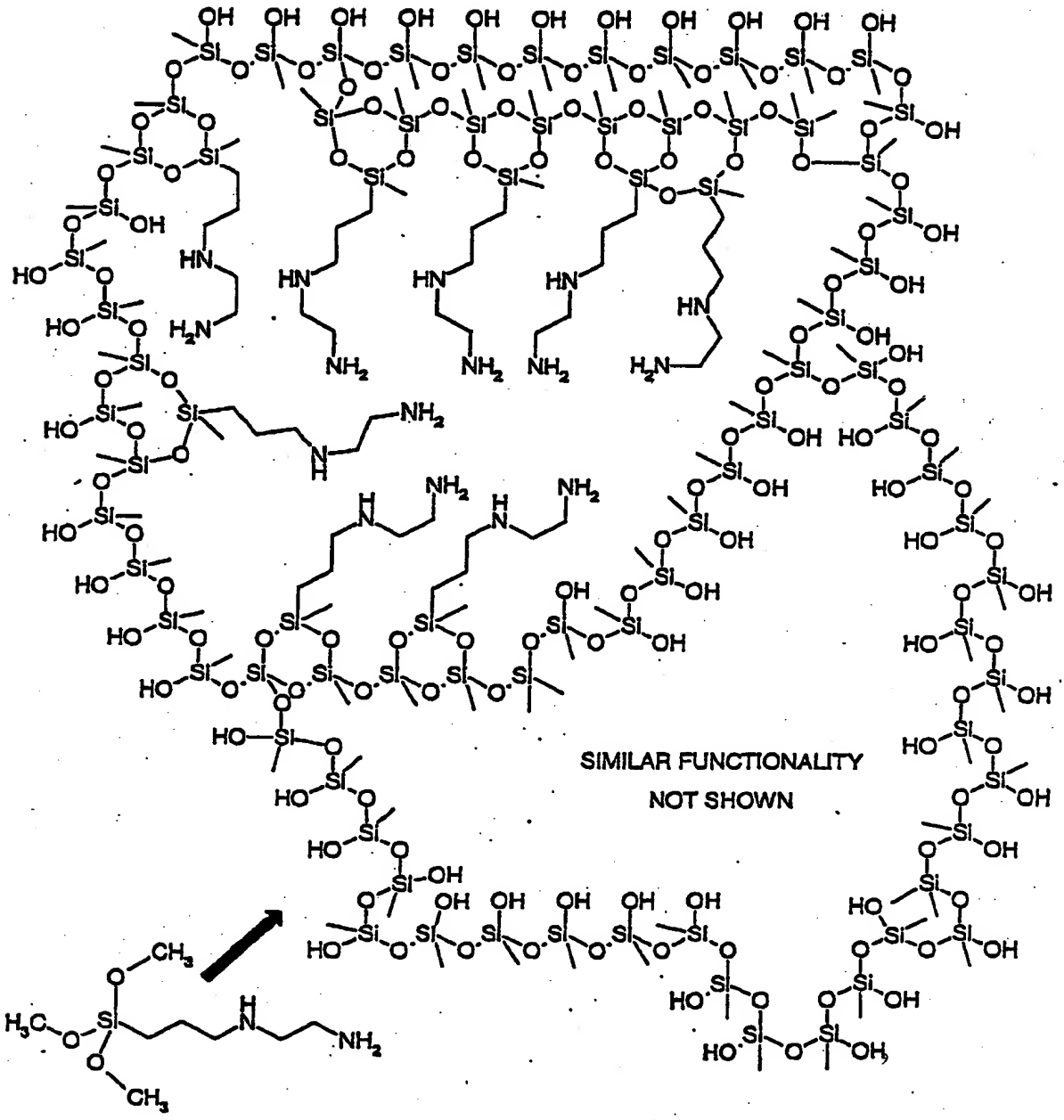


FIGURE 12

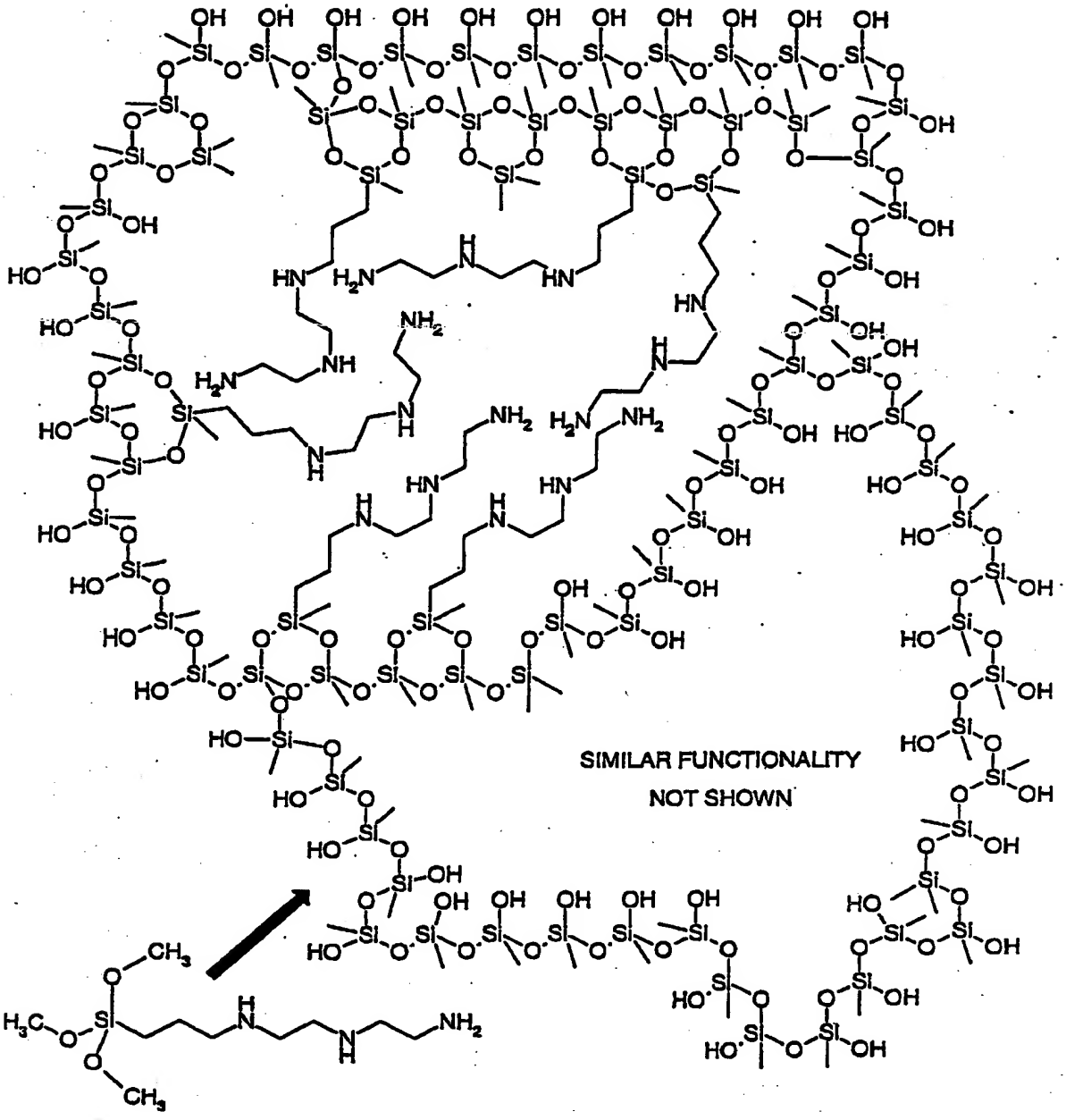


FIGURE 13

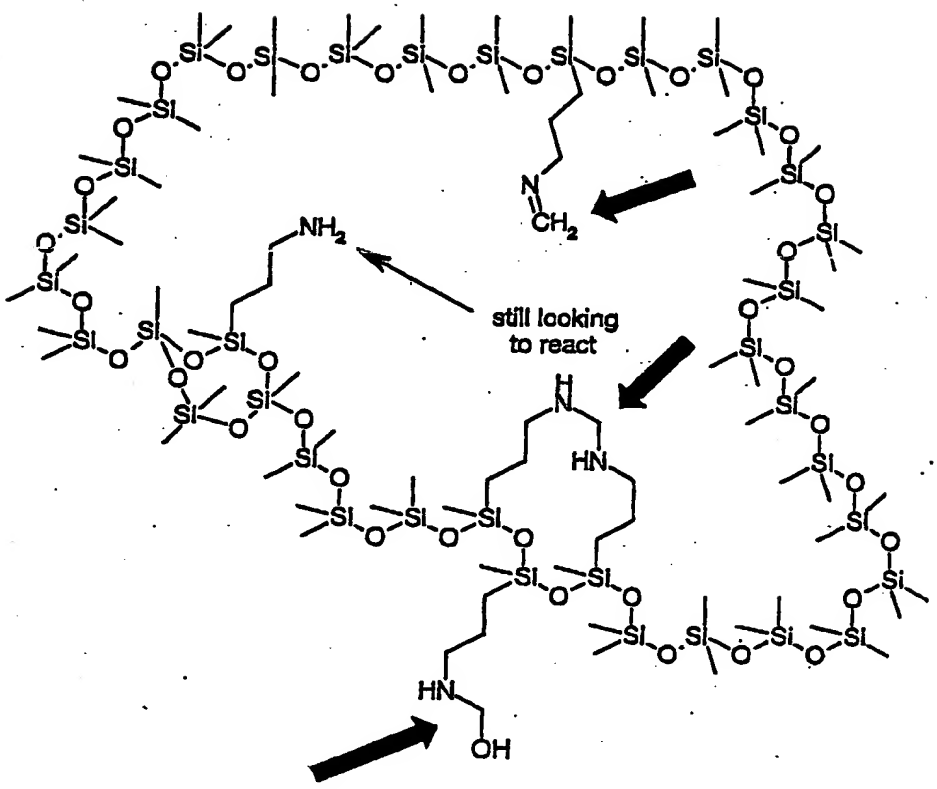


FIGURE 14

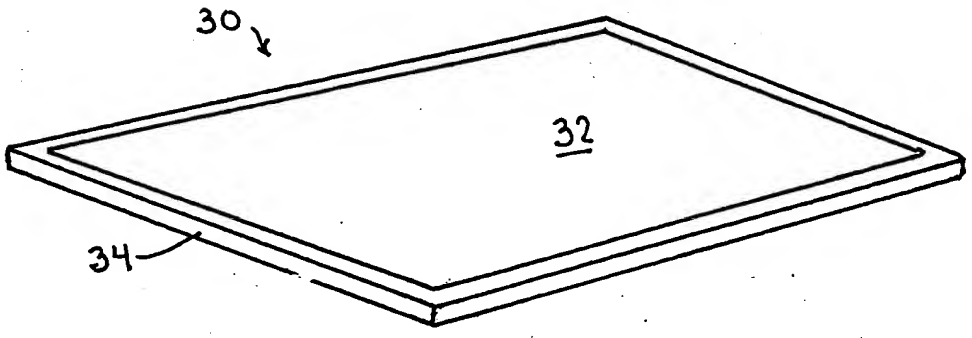


FIGURE 15

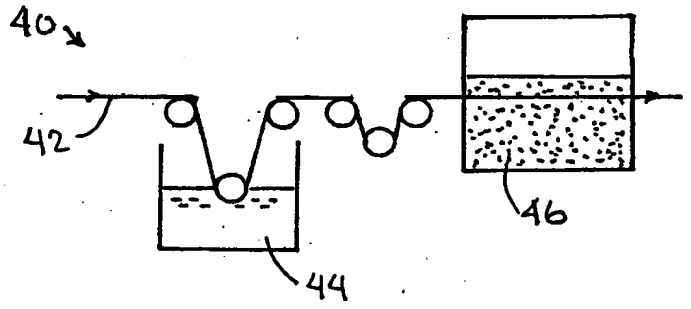
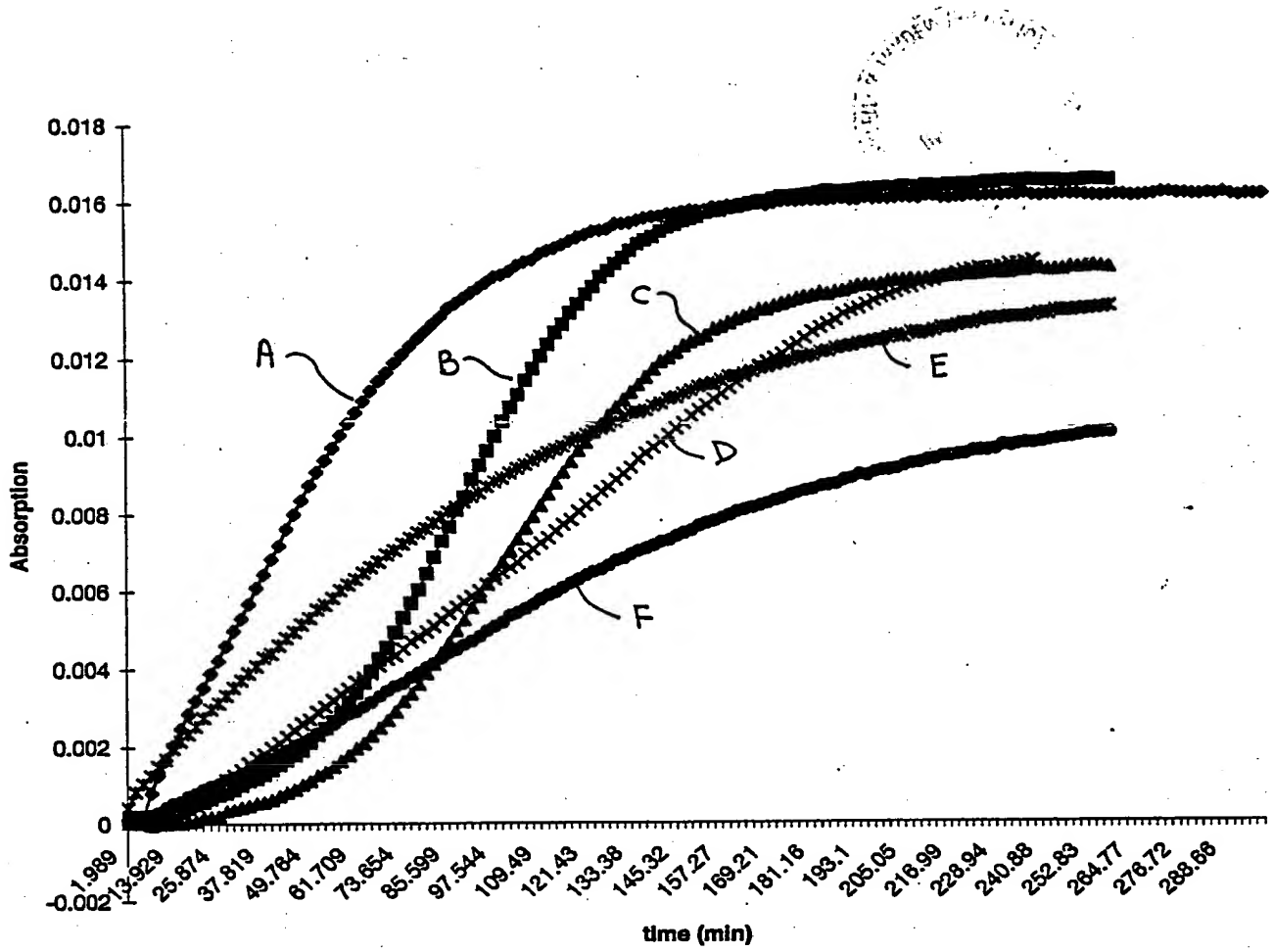


FIGURE 16

FIGURE 17


0.018
0.016
0.014
0.012
0.01
0.008
0.006
0.004
0.002
0
-0.002
Absorption
-1.989
13.929
25.874
37.819
49.764
61.709
73.654
85.599
97.544
109.49
121.43
133.38
145.32
157.27
169.21
181.16
193.1
205.05
216.99
228.94
240.88
252.83
264.77
276.72
288.66
time (min)
A
B
C
D
E
F